

WHAT IS CLAIMED IS:

1. A stable immunogenic emulsion composition suitable for frozen storage comprising: an emulsion which comprises an aqueous phase containing an immunomimic epitope conjugated to an immunogenic protein carrier; and a pharmaceutically acceptable oily vehicle, which supports a stable emulsion during frozen storage.
2. The composition according to claim 2, wherein the immunomimic epitope is a non-peptide moiety.
3. The composition according to claim 1, wherein the immunomimic epitope is a peptide.
4. The composition according to claim 3, wherein the immunomimic peptide contains the epitope of gastrin.
5. The composition according to claim 3 or 4, wherein the epitope is selected from the group consisting of gastrin 17 ("G17") and gastrin 34 ("G34").
6. The composition according to claim 1, wherein the immunomimic peptide contains the epitope of gonadotropin releasing hormone (GnRH).
7. The composition according to claim 1, wherein the immunogenic protein carrier is a foreign protein capable of evoking an effective immune response.
8. The composition according to claim 1 or 7, wherein the immunogenic protein is selected from the group consisting of diphtheria toxoid, tetanus toxoid, keyhole limpet hemocyanin, horseshoe crab hemocyanin, bovine serum albumin, extract of filamentous anycolate, extract of H. Pertussis, and dextran.
9. The composition according to claim 1, wherein the oily vehicle comprises squalene and/or squalane.
10. The composition according to claim 1 or 9, wherein the oily vehicle comprises Montanide ISA 703, Montanide ISA 25, Montanide ISA 719, or Montanide ISA 720.
11. The composition according to claim 1 or 9, wherein the oily vehicle comprises Montanide ISA 703.
12. The composition according to claim 1, wherein the emulsion comprises the conjugate as an aqueous solution and the oily vehicle in equal volumes.
13. The composition according to claim 1, wherein the emulsion comprises the conjugate as an aqueous solution and the oily vehicle in unequal volumes.
14. The composition according to claim 1, wherein the frozen storage lasts at least one year.
15. The composition according to claim 1, wherein the conjugate comprises a spacer peptide linking the immunomimic peptide to the immunogenic protein carrier.

16. An injectable immunogenic emulsion formulated for frozen storage comprising:

(a) an aqueous phase comprising a hormone peptide or fragment thereof which is conjugated to an immunogenic protein carrier; and

(b) an oily vehicle comprising a pharmaceutically acceptable oil or a mixture of pharmaceutically acceptable oils;

wherein the emulsion is stable during frozen storage.

17. The emulsion according to claim 16 wherein the aqueous phase and the oily vehicle are present at a weight ratio of about 70:30 for an oil-in-water emulsion.

18. The emulsion according to claim 16 wherein the aqueous phase and the oily vehicle are present at a weight ratio of about 30:70 for a water-in-oil emulsion.

19. The injectable emulsion of claim 16, wherein the frozen storage comprises a temperature ranging from about -18°C to about -80°C.

20. The injectable emulsion of claim 16, wherein the frozen storage comprises a temperature of about -18°C.

21. The injectable of claim 16, wherein the frozen comprises a temperature of about -70°C.

22. The injectable emulsion of claim 16, wherein the long term frozen storage ranges from 3-12 months.

23. The injectable emulsion of claim 16, wherein after frozen storage at about -18°C, the emulsion exhibits a significant immunogenicity increase.

24. The injectable emulsion of claim 16, which has been sterile filtered.

25. The injectable emulsion of claim 16, wherein the hormone peptide or fragment thereof comprises an epitope of gastrin.

26. The injectable emulsion of claim 16, wherein the hormone peptide or fragment thereof comprises an epitope of G17.

27. The injectable emulsion of claim 16, wherein the hormone peptide or fragment thereof comprises an epitope of G34.

28. The injectable emulsion of claim 16, wherein the hormone peptide or fragment thereof comprises an epitope of the human GnRH.

29. The injectable emulsion of claim 16, wherein the immunogenic protein carrier is selected from diphtheria toxoid ("DT"), tetanus toxoid ("TT"), bovine serum albumin ("BSA"), keyhole limpet hemocyanin ("KHC"), extracts of H. Pertussis, extract of filamentous Amycolate, dextran, horseshoe crab hemocyanin, and ovalbumin.

30. The injectable emulsion of claim 16, wherein the emulsion comprises a G17 peptide fragment ranging from amino acid 1-9 of the amino terminal sequence which is conjugated at the ninth amino

acid through a spacer to the DT carrier.

31. The injectable emulsion of claim 16, wherein after storage at about -18°C the emulsion is effective in significantly increasing the anti-G17 antibody titer in an immunized animal.

32. The composition according to claim 1, wherein the emulsion stored at about -18°C exhibits
5 an increased immunogenicity.

33. A method for prolonged stable storage of an immunogen or vaccine comprising preparing a composition as claimed in claim 1.

34. The method for prolonged storage of an immunogen or vaccine according to claim 16,
10 wherein the composition comprises an injectable formulated immunogenic emulsion which is stored frozen.

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